



Institution name here

No _____/.....

Place, Date 15/01/2022

Course Syllabus

1. Program

Title of the study programme: *Master of Science Program in Forestry*

2. Course details

Course name: *Mapping Technology in Forestry*

Course code: *01303522*

Number of credits (hours/week): 3 (2-3-6)

Course type (tick the appropriate box): Required, Elective, Other, if other please explain:

Prerequisites courses: -

Semester, in which the course is taught: *tick the appropriate box below*

Year 1		Year 2	
Semester 1	Semester 2	Semester 1	Semester 2
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Responsible unit

3.1. Department:

Names and affiliations of lecturer(s): Mr. Theerapong Chumsangsri (Dept. of For. Eng.)

Asst.Prof.Wanchai Arunprapat (Dept. of For. Eng.)



4. Course description

Topographic map, coordinate system, map projection, angle and direction, digital terrain model (DTM), geo-database, global navigation satellite system (GNSS), surveying and mapping techniques in forestry, retrieval system and management of maps.

5. Course objectives

At the end of the course, students are able to:

- *Remember and understand principle of mapping technology in Forestry*
- *Create and manage maps*
- *Select tool and technology suit for their purpose*

5.1. Learning objectives of particular modules

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6. Course teaching methods

Online lecture, Exercise, Assignment, Discussion, Presentation, Case study

7. Teaching plan

Lecture

Week	Content	Method/activity	Hours
1	Principle, importance of mapping in forestry	Lecture Discussion	2
2, 3	Coordinate system, projection	Lecture Discussion	4
4, 5, 6	Mapping technologies in forestry <ul style="list-style-type: none"> - Surveying - Geographic Information System (GIS) - Remote sensing - Global Navigation) Satellite 	Lecture Discussion	6



	System (GNSS) - Laser scanner Software		
7, 8	GIS and spatial data	Lecture Discussion	4
9,10	Terrain analysis	Lecture Discussion	4
11	Forest land use map	Lecture Discussion	2
12, 13	Spatial analysis and model	Lecture Discussion	4
14	Case study	Presentation	2
15	Case study	Presentation	2

Practice

Week	Content	Method/activity	Hours
1, 2, 3	Data input - Feature class - Edit - Topology	Demonstrate Practice Assignment	9
4	Register and projection	Demonstrate Practice Assignment	3
5, 6	Terrain analysis	Demonstrate Practice Assignment	6
7, 8	Network analysis	Demonstrate Practice Assignment	6
9	Overlay analysis	Demonstrate Practice Assignment	3



10,11	Techniques for creating forest land use maps	Demonstrate Practice Assignment	6
12, 13	Spatial data analysis with mathematical models	Demonstrate Practice Assignment	6
14	Case study	Assignment	3
15	Case study	Assignment	3

8. Material needs

8.1. Course equipment:

Computer or laptop and software (ArcGIS, QGIS, ERDAS-IMAGINE, FARO SCENE)

9. References

9.1. Compulsory reading list

Lemmens Mathias .2011 .Geo-Information :Technologies and The Environment .Springer :349p.
 Longley A .Paul, Goodchild F .Michael, Maguire J .David, and Rhind W .David .2015 .Geographic Information Science & Systems. Wiley .477p.
 Faro. 2020. SCENE 2019 FARO Focus Laser Scanners Training Workbook. Faro. 338p.

9.2. Suggested reading list

10. Assessment of students

10.1. Description of assessment

The assessment is a combination of direct and indirect measures that include examination, self-study, presentation, exercise, assignment, and class participation during the entire course.



10.2. Grade distribution and student assessment

Examination	40%
Self study/presentation	20%
Exercise/assignment	30%
Class participatory	10%
Total	100%

Grading scale

Grade		Total score	Scale
Symbol	Verbal grade		
A	Excellent	≥ 80	4.0
B+	Very good	75-79	3.5
B	Good	70-74	3.0
C+	Fairly good	65-69	2.5
C	Fair	60-64	2.0
D+	Poor	55-59	1.5
D	Very poor	50-54	1.0
F	Fail	< 50	0.0

Kasetsart University, Date 15/01/2022